Amendments to the Claims

Please amend Claims 1, 5 and 14 as indicated below in the listing of claims. Please add new Claims 17-20 as presented below.

Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A method for ameliorating neuronal atrophy and loss accompanying ~~normal~~ aging in the mammalian brain, the method comprising directly or indirectly delivering a unit dosage of a neurotrophin-encoding transgene composition to preselected delivery sites in the brain, wherein the encoded neurotrophin is expressed in the brain, and stimulates axonal growth in targeted neurotrophin-receptive neurons therein.

2. (Original) The method according to Claim 1, wherein the targeted neurotrophin-receptive neurons are cholinergic neurons.

3. (Original) The method according to Claim 2, wherein the targeted cholinergic neurons are within 550 μm of a delivery site, and wherein further growth is stimulated in said neurons by the expressed neurotrophin.

4. (Original) The method according to Claim 2, wherein terminal axons of targeted cholinergic neurons are located more than 550 μm from a delivery site, and wherein further growth is stimulated in said terminal axons by the expressed neurotrophin.

5. (Currently amended) The method according to Claim 1, wherein the neurotrophin-encoding transgene composition is delivered directly ~~in vivo~~, by introduction of a transgene-expressing recombinant expression vector into the brain.

6. (Withdrawn) The method according to Claim 1, wherein the neurotrophin-encoding transgene composition is delivered ex vivo, from grafts of transgene-secreting donor cells introduced into the brain.

7. (Original) The method according to Claim 5, wherein the transgene-expressing recombinant expression vector is a viral vector.

8. (Original) The method according to Claim 7, wherein the viral vector is delivered in a pharmaceutically acceptable composition, and provides from 10^{10} to 10^{12} viral particles/ml of composition.

9. (Withdrawn) The method according to Claim 6, wherein the donor cells are delivered in a pharmaceutically acceptable composition having a concentration of at least 1 x 10^5 donor cells/μl.

10. (Withdrawn) The method according to Claim 9, wherein each graft contains from 2 to 20 μl of the donor cell containing composition.

11. (Original) The method according to Claim 1, wherein the mammal is a human and the transgene encodes a human nervous system growth factor.

12. (Original) The method according to Claim 11, wherein the transgene encodes nerve growth factor (NGF).

13. (Original) The method according to Claim 11, wherein the transgene encodes neurotrophin 3 (NT-3).

14. (Currently amended) The method according to Claim 1, wherein the delivery ~~cell~~ sites are all within the Ch4 region of the cholinergic basal forebrain.

15. (Original) The method according to Claim 1, wherein each delivery site is preselected by correlating loss of cortical fiber density to impairment of neurological function in the aging brain.

16. (New) The method according to Claim 1, wherein the targeted neurotrophin-receptive neurons are contained in a region of the brain other than the region containing the delivery sites, wherein the former region of the brain is innervated by neurons originating in the latter region of the brain.

17. (New) The method according to Claim 16, wherein the delivery sites are located in the cholinergic forebrain.

18. (New) The method according to Claim 17, wherein the region of the brain containing the targeted neurons is the cortex.

19. (New) The method according to Claim 17, wherein the region of the brain containing the targeted neurons is the substantia nigra.

20. (New) The method according to Claim 17, wherein the region of the brain containing the targeted neurons is the entorhinal cortex.